Modern Concepts of Cardiovascular Disease

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THE DIAGNOSIS AND TREATMENT OF CARDIOVASCULAR SYPHILIS

Part II

Because of the fact that we are at present able to make the diagnosis of uncomplicated aortitis in only 2.5 per cent of patients with syphilis before age 40, there may be some question as to whether the effort is worth while. One of the important objectives in the practice of medicine is to discover disease in its earliest beginnings. Persistent efforts to diagnose aortitis early will make all of us more adept and may produce new methods by which our skill can be enhanced. We shall be able to explain the presence of a positive Wassermann reaction in patients with latent syphilis and we shall be able to plan our treatment accordingly. Patients with syphilitic aortitis require some modification in the dosage of antiluetic drugs. Timely advice as to occupation, rest and exercise may be of great value in preventing unnecessary strain upon the cardiovascular system. It is clearly to the advantage of the patient to discover this condition as early as possible. In those patients over 40 in whom the aorta is dilated (18 per cent) the advantage is even more obvious.

There are one or two points about the diagnosis of syphilitic aortic insufficiency that are worthy of discussion. In the great majority of cases where the structural damage is not extensive the diastolic murmur is heard best to the left of the sternum, is of the soft decrescendo type and is indistinguishable from the murmur of aortic insufficiency caused by rheumatic fever. As the syphilitic process advances the aorta dilates, elongates and its ascending portion moves further and further to the right. The murmur is then heard best to the right of the sternum. Therefore the oft repeated statement that the diastolic murmur of syphilitic aortic insufficiency is heard best to the right of the sternum while that of rheumatic origin is heard best to the left is true only to a very limited extent. In the great majority of cases the murmur of the former condition is heard best to the left of the sternum and sounds just like that of rheumatic aortic insufficiency. In advanced cases of syphilitic aortic insufficiency the systolic and diastolic murmurs take on a rougher sawing quality that sometimes causes the mistaken diagnosis of aortic stenosis to be made. Syphilis never causes this lesion. Auricular fibrillation is rare in syphilitic cardiovascular disease. Its appearance probably indicates the presence of changes in the myocardium caused by rheumatic fever, arteriosclerosis or hyperthyroidism.

The symptoms and physical signs of aneurysm of the aorta are so well known that there is little that need be said here. It should be emphasized that unless this condition is complicated by aortic insufficiency, hypertension or coronary artery disease, the heart does not enlarge. It is common to find a large aneurysm with a small heart. In the differential diagnosis between aortic aneurysm and solid tumors in the thorax, the presence or absence of pulsation is not a reliable sign upon which to rest the diagnosis of tumor. Sometimes tumors pulsate and aneurysms do not. In doubtful cases it may be necessary to visualize the aorta by means of an opaque substance injected intravenously when the question of surgical treatment has to be decided.

Syphilitic coronary osteal stenosis causes anginal pain indistinguishable from that produced by arteriosclerosis of these vessels. If in a patient with syphilitic aortitis, angina pectoris appears, it is justifiable to add the diagnosis, syphilitic coronary osteal stenosis. Unfortunately the converse of this is not true. The absence of angina pectoris does not exclude the presence of syphilitic coronary disease. Studies of post mortem marterial[5] have shown that in 50 per cent of cases showing coronary osteal stenosis there was no anginal pain during life. Adequate collateral circulation prevents the appearance of pain. It is amazing to see specimens in which the right coronary osteum has been completely occluded and the left has been narrowed to a slit one or two millimeters wide and yet these patients have been able to live for several years after anginal pain began. One under our observation lived ten years after the onset of angina pectoris. Sudden death is common in these patients, either with or without preceding anginal pain.

Gumma of the myorcardium is a rare lesion. In fourteen years of intensive study of syphilitic cardiovascular disease we have encountered this condition only once at post mortem. It is one of the causes of sudden and unexpected death in syphilitic patients and is therefore encountered most often in the practice of the Medical Examiner.

The specific treatment of cardiovascular syphilis can be planned intelligently only if the physician takes into consideration the nature and severity of the pathological lesion with which he is dealing. The dosage and type of the antisyphilitic remedy to be used depends upon the stage of the disease with which the physician is dealing.

Prevention. Cardiovascular syphilis can be prevented. Vonderlehr and Usilton[6] have shown that adequate treatment, given at the time of the chancre and continued for two years thereafter prevented the development of cardiovascular syphilis in a group of syphilitics observed 10 to 20 years after infection. A longer follow-up may disclose some cases of aortitis but the important point to stress is that every patient with early syphilis must be treated vigorously at the time of the chancre and continuously for two years thereafter. Moore[7] states that even in latent syphilis adequate treatment will give

satisfactory results. The Cooperative Clinics Group has studied the outcome of treatment in 1936 patients with latent syphilis in none of whom could the diagnosis of cardiovascular syphilis be made before treatment. The condition was later observed to develop in only 31 patients following treatment. In early and latent syphilis the full course of treatment such as that recommended by Moore[8] should be used.

Uncomplicated aortitis. When the diagnosis of uncomplicated aortitis has been made or when the aorta is found dilated in syphilitic patients over 40 years of age, a modified plan of treatment should be followed. It is never advisable to begin with arsenic because of the danger of too rapid an effect upon the lesion and a Herxheimer reaction. Furthermore old salvarsan should never be used because of the danger of ventricular fibrillation and sudden death. The following plan of treatment has given satisfactory results in our hands. Begin with potassium iodide 1.0—2.0 gm (15—30 gr.) three times a day by mouth and continue this throughout the course of treatment. At the same time give bismuth subsalicylate 0.1 — 0.2 gm (1.5 — 3 gr.) intramuscularly once a week for twelve weeks. Then give neoarsphenamine 0.1 gm or mapharsen 0.01 gm intravenously once a week increasing the dose gradually to a maximum of 0.6 gm of neoarsphenamine or 0.06 gm of mapharsen until ten doses have been given, provided no untoward reactions occur. In women and in less robust males the dose of neoarsphenamine should not exceed 0.3 gm and of mapharsen 0.03 gm. A course of bismuth consists of twelve injections and a course of arsenic ten. These are given alternately for two years without rest periods.

Syphilitic aortitis with aortic insufficiency or aneurysm. In these patients a similar plan of treatment is used provided there are no symptoms or signs of heart failure. The dose of arsenic should never exceed 0.3 gm of neoarsphenamine or 0.03 gm of mapharsen. In instances when the lesion is advanced even though there are no signs of heart failure all arsenical treatment is omitted.

Syphilitic coronary oseal stenosis. Here the physician is confronted with a difficult problem. There is danger that antisyphilitic treatment will aggravate the condition by causing swelling in the lesion at the mouth of the coronary artery. Therefore it should not be vigorous. Our practice is to give potassium iodide 1.0 — 2.0 gm (15 — 30 gr.) three times a day and 0.1 gm of bismuth subsalicylate once a week intramuscularly. The effect on the anginal pain is watched very carefully. If the attacks lessen the treatment is continued but if at any time the symptoms increase, it is stopped. All patients are also given the usual medical regimen prescribed for coronary artery disease with angina pectoris.

Syphilitic cardiovascular disease with heart failure. Patients who have reached the stage of heart failure, complaining of dyspnea on exertion or paroxysmal dyspnea and who on examination show dependent edema, basal rales, cyanosis or engorgement of the liver are given no specific antisyphilitic treatment until satisfactory compensation has been restored. They are put to bed and given adequate doses of digitalis. Salt intake is limited and fluids are reduced to 1200-1500 cc a day. If good diuresis does not result, one of the mercurial diuretics is administered intravenously two or three times a week until all signs of edema have disappeared. If this plan of treatment succeeds in restoring compensation and the patient is able to be active without signs of failure a modified plan of antisyphilitic treatment can be instituted. This consists of potassium iodide 1.0 — 2.0 gm (15 — 30 gr.) three times a day by mouth and bismuth subsalicylate 0.1 — 0.2 gm intramuscularly once a week. This is continued for two months and omitted for two months as long as the patient appears to be benefitted thereby. No arsenical preparations are used.

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